

## CLAIMS:

1. Method for determining geometrical properties of a structure of an object displayed in an image, comprising the steps of:

(a) adapting a deformable surface model to the object;

(b) applying additional geometrical information to the adapted deformable

5 surface model of the object; and

(c) extracting the geometric properties of the structure of the object from the adapted deformable surface model to which additional geometrical information has been applied.

10 2. Method according to claim 1, wherein step (b) of applying additional geometrical information to the adapted deformable surface model of the object further comprises the steps of:

identifying surface elements of the deformable surface model relating to a particular sub-part of the object; and

15 fitting a geometric primitive to the surface elements relating to the particular sub-part of the object in the deformable surface model, the geometric primitive having a form corresponding to a form of the particular sub-part.

20 3. Method according to claim 2, wherein the geometrical properties of the object are extracted on the basis of the geometrical primitive.

4. Method according to claim 2, wherein the surface elements of the particular sub-part of the object are identified by means of labels assigned to the surface elements belonging to the particular sub-part.

5. Method for determining an extended deformable surface model for adaptation to an object, comprising the steps of:

(a) determining a deformable surface model of the object, wherein the deformable surface model describes a surface of the object; and

5 10 (b) integrating additional geometrical information into the deformable surface model.

6. Method according to claim 5, wherein step (b) of integrating additional geometrical information into the deformable surface model further comprises the steps 10 of:

selecting surface elements of a plurality of surface elements of the deformable surface model which belong to a sub-part of the object;

labeling the surface elements of the plurality of surface elements of the deformable surface model such that surface elements which belong to the same sub-part 15 have the same label.

7. Method according to claim 6, wherein step (b) of integrating additional geometrical information into the deformable surface model further comprises the steps of:

20 selecting a geometrical primitive in accordance with a form of the sub-part; and determining a rule which maps the geometric primitive onto the surface elements of the plurality of surface elements of the deformable surface model.

8. Image processing device, comprising:

25 a memory for storing a deformable model and an image depicting an object; and an image processor for determining geometrical properties of the object, which processor performs the following operation:

(a) adapting a deformable surface model to the object;

(b) applying additional geometrical information to the adapted deformable

30 surface model of the object; and

(c) extracting the geometric properties of the structure of the object from the adapted deformable surface model to which additional geometrical information has been applied.

5 9. Computer program for an image processing device in accordance with claim 8, for determining geometrical properties of an object, comprising the following steps:

- (a) adapting a deformable surface model to the object;
- (b) applying additional geometrical information to the adapted deformable

10 surface model of the object; and

- (c) extracting the geometric properties of the structure of the object from the adapted deformable surface model to which additional geometrical information has been applied.